

MOVING MAP INFORMATION INDEX

5

FIELD OF INVENTION

[0001] The invention relates generally to on board information systems for mobile platforms, such as aircraft, buses and trains. More specifically, the invention relates to a system and method for providing occupants of a mobile platform with useful, informative and entertaining information regarding points of interest along the
10 travel path of the mobile platform.

BACKGROUND OF THE INVENTION

[0002] Airline passengers have become isolated from the flying experience. At the same time the overall passenger experience has tended to become somewhat routine. Often passengers have little sense that they are making progress toward their destination, which makes their flight seem longer. Therefore,
15 it would be desirable to provide passengers a form of information that either indicates their progress toward a destination or presents the passengers with information or stories relating to their destination or points of interest along their travel path, or both.

BRIEF SUMMARY OF THE INVENTION

[0003] In one preferred embodiment, the present invention is a method for
20 providing information to occupants, e.g. passengers, of a mobile platform. The method includes presenting a moving map to each occupant, wherein the moving map includes a plurality of information icons. The moving map is displayed via at least one passenger display. Each information icon is associated with at least one of a plurality of information modules that include various forms of data in which the
25 occupant may be interested. For example, the information modules may include data about historical or archeological sites, and/or local culture, flora and fauna. Other examples of information that may be included in the information modules is

- 5 data about the terrain along the travel path of the mobile platform, data about the destination of the mobile platform, or data about restaurants and other attractions located around the destination of the mobile platform. In one preferred implementation, the method additionally includes presenting to the occupant the information module associated with an information icon selected by the occupant.
- 10 Thus, the occupant can select an information icon based on the type of desired information and then access the associated information module to view the desired information.

15 [0004] The features, functions, and advantages can be achieved independently in various embodiments of the present inventions or may be combined in yet other embodiments.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] The present invention will become more fully understood from the detailed description and accompanying drawings, wherein;

20 [0006] Figure 1 is a block diagram of a system for providing information and entertainment to occupants of a mobile platform, in accordance with one preferred embodiment of the present invention;

[0007] Figure 2 is a schematic of a section of a mobile platform passenger cabin area wherein the system shown in Figure 1 is implemented; and

[0008] Figure 3 is an illustration of a graphical panel displaying the moving map in accordance with a preferred embodiment of the present invention.

25 [0009] Corresponding reference numerals indicate corresponding parts throughout the several views of drawings.

DETAILED DESCRIPTION OF THE INVENTION

5 [0010] The following description of various preferred embodiments is merely exemplary in nature and is in no way intended to limit the invention, its application or uses. As described below, the present invention is directed to a system and method for providing occupants, e.g. passengers, of a mobile platform with travel information and entertainment. Although the preferred embodiments are
10 described in reference to aircraft, the invention should not be so limited in application. It is envisioned that the invention is applicable to aircraft, trains, buses, ships, and/or other forms of mobile platforms.

15 [0011] Figure 1 is a block diagram of a system 10 for providing passenger of a mobile platform, such as an aircraft, with information and entertainment, in accordance with a preferred embodiment of the present invention. As used herein the term passenger is intended to mean any occupant of the mobile platform, including crew members and traveling customers of the mobile platform. The system 10 provides data and information regarding geographical regions along the travel path of the mobile platform and/or other information such as ground speed,
20 outside air temperature, altitude and time/distance to a point of interest. The system 10 is an onboard local area network (LAN). System 10 includes a server 14 that includes a processor 18 suitable to execute all functions of server 14, and at least one electronic storage device 22. The electronic storage device 22 preferably comprises a computer readable medium, such as a hard drive or any other electronic data storage device for storing such things as software packages or programs, algorithms, information and data. In an alternate embodiment, the electronic storage device 22 is independent of and electrically connected to the server 14. Additionally, system 10 includes a plurality of zone distribution units (ZDUs) 26 connected for communication with each other, e.g. hard wired or
25 wirelessly connected, to server 14. The ZDUs 26 are preferably located in an overhead compartment above a plurality of seats in a passenger compartment of the mobile platform, as shown in Figure 2.

5 **[0012]** Additionally, system 10 includes a plurality of passenger interfaces
30 communicatively connected, e.g. hard wired or wirelessly connected, to the ZDUs
26. Each passenger interface 30 includes a display 34 for viewing such things as a
moving map, information, data and other graphical representations. Each
passenger interface 30 additionally includes an audio listening device 36, such as a
10 headset and jack or a speaker, for audibly presenting information to passengers.
Each passenger interface 30 preferably also includes a data input device 38 that
allows a passenger to input information, data and/or queries to server 14. For
example, the data input device 38 can be a keyboard, a mouse or a touch screen
included in the display 34.

15 **[0013]** The electronic storage device 22 includes at least one database 42
for storing groups of information and data. In a preferred embodiment, the database
42 electronically stores information modules pertaining to information and data
regarding geographical regions along the travel path of the mobile platform. For
example, database 42 can store information modules regarding various locations,
20 structures, cities, land masses, water masses, historical facts, etc. that relate to
geographical regions along the travel path of the mobile platform. The database 42
is included in the storage device 22, however, the database 42 can instead be
included in an independent electronic storage device (not shown) separate from and
connected to the server 14.

25 **[0014]** Additionally, server 14 includes a wireless modem (not shown) such
that system 10 can access the Internet, such as a wide area network, using a
broadband signal. Therefore, the system 10 can access a remote site 46, such as a
remote terrestrial server system, using the broadband signal.

30 **[0015]** Figure 2 illustrates a section of a mobile platform passenger cabin
area 50 wherein system 10 is utilized in accordance with a preferred embodiment of
the present invention. The passenger cabin area 50 includes a plurality of
passenger seats 54. The passenger interfaces 30 are located within the passenger
cabin area 50 at any location conveniently accessible by a passenger. For example,

- 5 the passenger interfaces 30 can be integrated with a head rest portion 58 of some or all of the passenger seats 54, or integrated with an armrest 62 of some or all of the passenger seats 54.

[0016] The system 10 includes a plurality of dedicated seat electronics boxes (SEBs) 66 that communicatively connect the passenger interfaces 30 with the ZDUs 26. The SEBs 66 receive audio/video information and other data from the server 14, via the ZDUs 26, and transmit the information and data to the passenger interfaces 30. Similarly, the SEBs 66 receive data and queries from the passenger interfaces 30 and transmit the data and queries to the sever 14, via the ZDUs 26.

[0017] In an alternate preferred embodiment, system 10 includes a plurality wireless network interface circuits (NICs) 70 at each passenger seat 54. The NICs 70 wirelessly link the passenger interfaces 30 with the ZDUs 26. In one preferred embodiment, the NICs 70 are integrated into the passenger interfaces 30. The NICs 70 wirelessly receive audio/video entertainment information and other data from the server 14, via the ZDUs 26, and transmit the information and data to the passenger interfaces 30. Similarly, the NICs 70 receive data and queries from the passenger interfaces 30 and wirelessly transmit the data and queries to the server 14, via the ZDUs 26.

[0018] Figure 3 is an illustration of a graphical panel illustrating a moving map 100 in accordance with a preferred embodiment of the present invention. The moving map 100 is displayed on displays 34 so that passengers can view the moving map 100 as the mobile platform moves along its travel path. The moving map 100 is a graphical real time representation of the geographical region the mobile platform is currently traversing. More specifically, as the mobile platform advances along its travel path, the moving map 100 displayed on the displays 34 is continuously updated by the server 14 to illustrate the geographical region presently being traversed. In addition to the geographic region, the moving map includes information icons 104 that indicate various points of interest along the travel path, such as tourist attractions, architectural structures, cities, land masses, water

- 5 masses and locations of historical events. Each information icon 104 is associated
with at least one information module containing information and/or stories about the
point of interest indicated by the associated information icon 104. Additionally, each
information icon 104 can include other information such as information pertaining to
hotels and restaurants in or around a specific location, and/or a distance to or from a
10 specific destination.

[0019] In a preferred embodiment, each information module is stored in
database 42. In this embodiment, each icon 104 is electronically linked to at least
one associated information module. Therefore, to retrieve an information module,
the passenger utilizes the input device 38 to select an icon of interest. The
15 passenger interface 30 then transmits the query to the server 14, via the ZDU 26.
Thereafter, the server 14 returns the associated information module to the
passenger interface 30. The information contained in the information module can
be visually presented to the passenger via the display 34 and/or audibly presented
via the speaker 36. The information contained in the information module can be
20 visually displayed in text form, e.g. a pop-up dialog box, and/or graphical form, e.g.
pictorial form.

[0020] In an alternate preferred embodiment, each information module is
incorporated into at least one information manual stored at a location in the
passenger cabin area 50 easily accessible by the passenger. For example, the
25 information manual can be a magazine or booklet stored in seat back pockets (not
shown) included in each passenger seat 54. The information manuals may
comprise the information included in each information module and would be
appropriately marked with a plurality of identifiers that link each information module
with the associated information icon 104. Furthermore, each information icon 104
30 could be distinguishable from all other information icons 104, and the identifiers
could be images of the distinguishable information icons 104. In another alternate
preferred embodiment, each information icon 104 could have a number displayed
next to it on the moving map 100. The number displayed correlates to a page in the

5 information manual on which the desired information module is located. Therefore,
to retrieve an information module, the passenger views the moving map 100 and
selects an information icon 104 of interest. In addition to the information icons 104,
the moving map 100 displays a specific identifier associated with each information
icon 104 and associated information module in the information manual. Thus, the
10 passenger views the identifier illustrated in the moving map 100, retrieves the
information manual and locates the desired information module within the
information manual identified with the corresponding identifier.

[0021] In an alternate preferred embodiment, the plurality of passenger
displays 34 included in passenger interfaces 30 is replaced with at least one multiple
15 passenger display viewable by a plurality of passengers. For example, the
passenger display 34 can be one main screen that is viewed by a plurality of
passengers. The passengers can then access desired information modules utilizing
the information manuals, as described above.

[0022] Referring to Figure 1, in another alternate preferred, the passenger
20 interfaces 30 include a connection port 108 adapted to allow a passenger to connect
a personal computing device, such as a laptop computer, to system 10. Therefore,
the passenger can access the moving map and information modules, as described
above, by electronically connecting the personal computing device to server 14, via
the port 108.

25 [0023] Therefore, the invention thus provides a means for passengers to
retrieve interesting and entertaining information regarding points of interest along
their travel path and/or their destination utilizing the moving map 100 presented on
the display 34 to access the information modules, as described above.

[0024] While the invention has been described in terms of various specific
30 embodiments, those skilled in the art will recognize that the invention can be
practiced with modification within the spirit and scope of the claims.